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SEQUENCE LISTING

<110> AVIDIS SA

<120> MULTIMERIC COMPLEXES OF ANTIGENS AND ADJUVANTS

<130> AHB/FP6164701

<140>

<141>

<150> EP 02292042.5

<151> 2002-08-14

<160> 20

<170> PatentIn Ver. 2.1

<210> 1

<211> 57

<212> PRT

<213> Homo sapiens

<400> 1

Glu Thr Pro Glu Gly Cys Glu Gln Val Leu Thr Gly Lys Arg Leu Met
1 5 10 15

Gln Cys Leu Pro Asn Pro Glu Asp Val Lys Met Ala Leu Glu Val Tyr
20 25 30

Lys Leu Ser Leu Glu Ile Glu Gln Leu Glu Leu Gln Arg Asp Ser Ala
35 40 45

Arg Gln Ser Thr Leu Asp Lys Glu Leu
50 55

<210> 2

<211> 57

<212> PRT

<213> Oryctolagus cuniculus

<400> 2

Glu Val Pro Glu Gly Cys Glu Gln Val Gln Ala Gly Arg Arg Leu Met
1 5 10 15

Gln Cys Leu Ala Asp Pro Tyr Glu Val Lys Met Ala Leu Glu Val Tyr
20 25 30

Lys Leu Ser Leu Glu Ile Glu Leu Leu Glu Leu Gln Arg Asp Lys Ala
35 40 45

Arg Lys Ser Ser Val Leu Arg Gln Leu
50 55

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<210> 3
<211> 55
<212> PRT
<213> Rattus sp.

<400> 3
Glu Val Pro Lys Asp Cys Glu His Val Phe Ala Gly Lys Lys Leu Met
1 5 10 15

Gln Cys Leu Pro Asn Ser Asn Asp Val Lys Met Ala Leu Glu Val Tyr
20 25 30

Lys Leu Thr Leu Glu Ile Lys Gln Leu Gln Leu Gln Ile Asp Lys Ala
35 40 45

Lys His Val Asp Arg Glu Leu
50 55

<210> 4
<211> 54
<212> PRT
<213> Mus sp.

<400> 4
Glu Ala Ser Glu Asp Leu Lys Pro Ala Leu Thr Gly Asn Lys Thr Met
1 5 10 15

Gln Tyr Val Pro Asn Ser His Asp Val Lys Met Ala Leu Glu Ile Tyr
20 25 30

Lys Leu Thr Leu Glu Val Glu Leu Leu Gln Leu Gln Ile Gln Lys Glu
35 40 45

Lys His Thr Glu Ala His
50

<210> 5
<211> 67
<212> PRT
<213> Bos sp.

<400> 5
Glu Tyr Pro Glu Gly Cys Glu Gln Val Val Thr Gly Arg Lys Leu Leu
1 5 10 15

Gln Cys Leu Ser Arg Pro Glu Glu Val Lys Leu Ala Leu Glu Val Tyr
20 25 30

Lys Leu Ser Leu Glu Ile Glu Ile Leu Gln Thr Asn Lys Leu Lys Lys
35 40 45

Glu Ala Phe Leu Leu Arg Glu Arg Glu Lys Asn Val Thr Cys Asp Phe
50 55 60

Asn Pro Glu
65

<210> 6
<211> 57
<212> PRT
<213> Sus scrofa

<400> 6
Glu Tyr Pro Glu Asp Cys Glu Gln Val His Glu Gly Lys Lys Leu Met
1 5 10 15
Glu Cys Leu Pro Thr Leu Glu Glu Ile Lys Leu Ala Leu Ala Leu Tyr
20 25 30
Lys Leu Ser Leu Glu Thr Asn Leu Leu Glu Leu Gln Ile Asp Lys Glu
35 40 45
Lys Lys Ala Lys Ala Lys Tyr Ser Thr
50 55

<210> 7
<211> 56
<212> PRT
<213> Cavia porcellus

<400> 7
Glu Val Pro Glu Glu Cys Lys Gln Val Ala Ala Gly Arg Lys Leu Leu
1 5 10 15
Glu Cys Leu Pro Asn Pro Ser Asp Val Lys Met Ala Leu Glu Val Tyr
20 25 30
Lys Leu Ser Leu Glu Ile Glu Gln Leu Glu Lys Glu Lys Tyr Val Lys
35 40 45
Ile Gln Glu Lys Phe Ser Lys Glu
50 55

<210> 8
<211> 59
<212> PRT
<213> Mus sp.

<400> 8
Glu Val Leu Glu Asp Cys Arg Ile Val Ser Arg Gly Ala Gln Leu Leu
1 5 10 15
His Cys Leu Ser Ser Pro Glu Asp Val His Arg Ala Leu Lys Val Tyr
20 25 30
Lys Leu Phe Leu Glu Ile Glu Arg Leu Glu His Gln Lys Glu Lys Trp
35 40 45
Ile Gln Leu His Arg Lys Pro Gln Ser Met Lys
50 55

<210> 9
<211> 52
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Variant of the
C4bp core protein

<400> 9
Cys Glu Gln Val Leu Thr Gly Lys Arg Leu Met Gln Cys Leu Pro Asn
1 5 10 15

Pro Glu Asp Val Lys Met Ala Leu Glu Val Tyr Lys Leu Ser Leu Glu
20 25 30

Ile Glu Gln Leu Glu Leu Gln Arg Asp Ser Ala Arg Gln Ser Thr Leu
35 40 45

Asp Lys Glu Leu
50

<210> 10
<211> 57
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Variant of the
C4bp core protein

<400> 10
Glu Thr Pro Glu Gly Cys Glu Gln Val Leu Thr Gly Lys Arg Leu Met
1 5 10 15

Gln Cys Leu Pro Asn Pro Glu Asp Val Lys Met Ala Leu Glu Val Tyr
20 25 30

Lys Leu Ser Leu Glu Ile Lys Gln Leu Glu Leu Gln Arg Asp Ser Ala
35 40 45

Arg Gln Ser Thr Leu Asp Lys Glu Leu
50 55

<210> 11
<211> 52
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Variant of the
C4bp core protein

<400> 11
Cys Glu Gln Val Leu Thr Gly Lys Arg Leu Met Gln Cys Leu Pro Asn
1 5 10 15

Pro Glu Asp Val Lys Met Ala Leu Glu Val Tyr Lys Leu Ser Leu Glu
20 25 30

Ile Lys Gln Leu Glu Leu Gln Arg Asp Ser Ala Arg Gln Ser Thr Leu
35 40 45

Asp Lys Glu Leu
50

<210> 12

<211> 57

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Variant of the
C4bp core protein

<400> 12

Glu Thr Pro Glu Gly Cys Glu Gln Val Leu Thr Gly Lys Arg Leu Met
1 5 10 15

Gln Cys Leu Pro Asn Pro Glu Asp Val Lys Met Ala Leu Glu Ile Tyr
20 25 30

Lys Leu Ser Leu Glu Ile Glu Gln Leu Glu Leu Gln Arg Asp Ser Ala
35 40 45

Arg Gln Ser Thr Leu Asp Lys Glu Leu
50 55

<210> 13

<211> 57

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Variant of the
C4bp core protein

<400> 13

Glu Thr Pro Glu Gly Cys Glu Gln Val Leu Thr Gly Lys Arg Leu Met
1 5 10 15

Gln Cys Leu Pro Asn Pro Glu Asp Val Lys Met Ala Leu Glu Ile Tyr
20 25 30

Lys Leu Ser Leu Glu Ile Lys Gln Leu Glu Leu Gln Arg Asp Ser Ala
35 40 45

Arg Gln Ser Thr Leu Asp Lys Glu Leu
50 55

<210> 14
<211> 50
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Variant of the C4bp core protein

<400> 14
Glu Gly Cys Glu Gln Ala Leu Thr Gly Lys Arg Leu Met Gln Cys Leu
1 5 10 15

Pro Asn Pro Glu Asp Val Lys Met Ala Leu Glu Ile Tyr Lys Leu Ser
20 25 30

Leu Glu Ile Lys Gln Leu Glu Leu Gln Arg Asp Ser Ala Arg Gln Ser
35 40 45

Thr Leu
50

<210> 15
<211> 57
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Variant of the C4bp core protein

<400> 15
Glu Thr Pro Glu Gly Ser Glu Gln Val Leu Thr Gly Lys Arg Leu Met
1 5 10 15

Gln Ser Leu Pro Asn Pro Glu Asp Val Lys Met Ala Leu Glu Val Tyr
20 25 30

Lys Leu Ser Leu Glu Ile Lys Gln Leu Glu Leu Gln Arg Asp Ser Ala
35 40 45

Arg Gln Ser Thr Leu Asp Lys Glu Leu
50 55

<210> 16
<211> 52
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Variant of the C4bp core protein

<400> 16
Glu Gly Ser Glu Gln Ala Leu Thr Gly Lys Arg Leu Met Gln Ser Leu
1 5 10 15

Pro Asn Pro Glu Asp Val Lys Met Ala Leu Glu Ile Tyr Lys Leu Ser
20 25 30

Leu Glu Ile Glu Gln Leu Glu Leu Gln Arg Asp Ser Ala Arg Gln Ser
35 40 45

Thr Leu Asp Lys
50

<210> 17
<211> 370
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Fusion Protein

<400> 17
Met Lys Phe Leu Pro Leu Phe Asp Arg Val Leu Val Glu Arg Ser Ala
1 5 10 15

Gly Ser Val Asp Ala Glu Arg Leu Lys His Leu Ile Val Thr Pro Ser
20 25 30

Gly Ser Gly Glu Gln Asn Met Ile Gly Met Thr Pro Thr Val Ile Ala
35 40 45

Val His Tyr Leu Asp Glu Thr Glu Gln Trp Glu Lys Phe Gly Leu Glu
50 55 60

Lys Arg Gln Gly Ala Leu Glu Leu Ile Lys Lys Gly Tyr Thr Gln Gln
65 70 75 80

Leu Ala Phe Arg Gln Pro Ser Ser Ala Phe Ala Ala Phe Val Lys Arg
85 90 95

Ala Pro Ser Thr Trp Leu Thr Ala Tyr Val Val Lys Val Phe Ser Leu
100 105 110

Ala Val Asn Leu Ile Ala Ile Asp Ser Gln Val Leu Cys Gly Ala Val
115 120 125

Lys Trp Leu Ile Leu Glu Lys Gln Lys Pro Asp Gly Val Phe Gln Glu
130 135 140

Asp Ala Pro Val Ile His Gln Glu Met Ile Gly Gly Leu Arg Asn Asn
145 150 155 160

Asn Glu Lys Asp Met Ala Leu Thr Ala Phe Val Leu Ile Ser Leu Gln
165 170 175

Glu Ala Arg Asp Ile Cys Glu Glu Gln Val Asn Ser Leu Pro Gly Ser
180 185 190

Ile Thr Lys Ala Gly Asp Phe Leu Glu Ala Asn Tyr Met Asn Leu Gln
195 200 205

Arg Ser Tyr Thr Val Ala Ile Ala Gly Tyr Ala Leu Ala Gln Met Gly
210 215 220

Arg Leu Lys Gly Pro Leu Leu Asn Lys Phe Leu Thr Thr Ala Lys Asp
225 230 235 240

Lys Asn Arg Trp Glu Asp Pro Gly Lys Gln Leu Tyr Asn Val Glu Ala
245 250 255

Thr Ser Tyr Ala Leu Leu Ala Leu Leu Gln Leu Lys Asp Phe Asp Phe
260 265 270

Val Pro Pro Val Val Arg Trp Leu Asn Glu Gln Arg Tyr Tyr Gly Gly
275 280 285

Gly Tyr Gly Ser Thr Gln Ala Thr Phe Met Val Phe Gln Ala Leu Ala
290 295 300

Gln Tyr Gln Lys Asp Ala Pro Gly Ser Glu Thr Pro Glu Gly Cys Glu
305 310 315 320

Gln Val Leu Thr Gly Lys Arg Leu Met Gln Cys Leu Pro Asn Pro Glu
325 330 335

Asp Val Lys Met Ala Leu Glu Val Tyr Lys Leu Ser Leu Glu Ile Glu
340 345 350

Gln Leu Glu Leu Gln Arg Asp Ser Ala Arg Gln Ser Thr Leu Asp Lys
355 360 365

Glu Leu
370

<210> 18
<211> 387
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Fusion Protein

<400> 18
Met Lys Phe Leu Pro Leu Phe Asp Arg Val Leu Val Glu Arg Ser Ala
1 5 10 15

Gly Ser Val Asp Ala Glu Arg Leu Lys His Leu Ile Val Thr Pro Ser
20 25 30

Gly Ser Gly Glu Gln Asn Met Ile Gly Met Thr Pro Thr Val Ile Ala
35 40 45

Val His Tyr Leu Asp Glu Thr Glu Gln Trp Glu Lys Phe Gly Leu Glu
50 55 60

Lys Arg Gln Gly Ala Leu Glu Leu Ile Lys Lys Gly Tyr Thr Gln Gln
65 70 75 80

Leu Ala Phe Arg Gln Pro Ser Ser Ala Phe Ala Ala Phe Val Lys Arg
85 90 95

Ala Pro Ser Thr Trp Leu Thr Ala Tyr Val Val Lys Val Phe Ser Leu
100 105 110

Ala Val Asn Leu Ile Ala Ile Asp Ser Gln Val Leu Cys Gly Ala Val
115 120 125

Lys Trp Leu Ile Leu Glu Lys Gln Lys Pro Asp Gly Val Phe Gln Glu
130 135 140

Asp Ala Pro Val Ile His Gln Glu Met Ile Gly Gly Leu Arg Asn Asn
145 150 155 160

Asn Glu Lys Asp Met Ala Leu Thr Ala Phe Val Leu Ile Ser Leu Gln
165 170 175

Glu Ala Lys Asp Ile Cys Glu Glu Gln Val Asn Ser Leu Pro Gly Ser
180 185 190

Ile Thr Lys Ala Gly Asp Phe Leu Glu Ala Asn Tyr Met Asn Leu Gln
195 200 205

Arg Ser Tyr Thr Val Ala Ile Ala Gly Tyr Ala Leu Ala Gln Met Gly
210 215 220

Arg Leu Lys Gly Pro Leu Leu Asn Lys Phe Leu Thr Thr Ala Lys Asp
225 230 235 240

Lys Asn Arg Trp Glu Asp Pro Gly Lys Gln Leu Tyr Asn Val Glu Ala
245 250 255

Thr Ser Tyr Ala Leu Leu Ala Leu Leu Gln Leu Lys Asp Phe Asp Phe
260 265 270

Val Pro Pro Val Val Arg Trp Leu Asn Glu Gln Arg Tyr Tyr Gly Gly
275 280 285

Gly Tyr Gly Ser Thr Gln Ala Thr Phe Met Val Phe Gln Ala Leu Ala
290 295 300

Gln Tyr Gln Lys Asp Ala Pro Gly Ser Gly Lys Val Leu Gln Ala Thr
305 310 315 320

Val Val Ala Val Gly Ser Gly Ser Lys Gly Lys Gly Gly Glu Ile Gln
325 330 335

Pro Val Ser Val Lys Val Gly Asp Lys Val Leu Leu Pro Glu Tyr Gly
340 345 350

Gly Thr Lys Val Val Leu Asp Asp Lys Asp Tyr Phe Leu Phe Arg Asp
355 360 365

Gly Asp Ile Leu Gly Lys Tyr Val Asp Glu Gln Lys Leu Ile Ser Glu
370 375 380

Glu Asp Leu
385

<210> 19
<211> 388
<212> PRT
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Fusion Protein

<400> 19

Met Lys Phe Leu Pro Leu Phe Asp Arg Val Leu Val Glu Arg Ser Ala
1 5 10 15

Gly Glu Thr Val Thr Val Asp Ala Glu Arg Leu Lys His Leu Ile Val
20 25 30

Thr Pro Ser Gly Ser Gly Glu Gln Asn Met Ile Gly Met Thr Pro Thr
35 40 45

Val Ile Ala Val His Tyr Leu Asp Glu Thr Glu Gln Trp Glu Lys Phe
50 55 60

Gly Leu Glu Lys Arg Gln Gly Ala Leu Glu Leu Ile Lys Lys Gly Tyr
65 70 75 80

Thr Gln Gln Leu Ala Phe Arg Gln Pro Ser Ser Ala Phe Ala Ala Phe
85 90 95

Val Lys Arg Ala Pro Ser Thr Trp Leu Thr Ala Tyr Val Val Lys Val
100 105 110

Phe Ser Leu Ala Val Asn Leu Ile Ala Ile Asp Ser Gln Val Leu Cys
115 120 125

Gly Ala Val Lys Trp Leu Ile Leu Glu Lys Gln Lys Pro Asp Gly Val
130 135 140

Phe Gln Glu Asp Ala Pro Val Ile His Gln Glu Met Ile Gly Gly Leu
145 150 155 160

Arg Asn Asn Asn Glu Lys Asp Met Ala Leu Thr Ala Phe Val Leu Ile
165 170 175

Ser Leu Gln Glu Ala Lys Asp Ile Cys Glu Glu Gln Val Asn Ser Leu
180 185 190

Pro Gly Ser Ile Thr Lys Ala Gly Asp Phe Leu Glu Ala Asn Tyr Met
195 200 205

Asn Leu Gln Arg Ser Tyr Thr Val Ala Ile Ala Gly Tyr Ala Leu Ala
210 215 220

Gln Met Gly Arg Leu Lys Gly Pro Leu Leu Asn Lys Phe Leu Thr Thr
225 230 235 240

Ala Lys Asp Lys Asn Arg Trp Glu Asp Pro Gly Lys Gln Leu Tyr Asn
245 250 255

Val Glu Ala Thr Ser Tyr Ala Leu Leu Ala Leu Leu Gln Leu Lys Asp
260 265 270

Phe Asp Phe Val Pro Pro Val Val Arg Trp Leu Asn Glu Gln Arg Tyr
275 280 285
Tyr Gly Gly Gly Tyr Gly Ser Thr Gln Ala Thr Phe Met Val Phe Gln
290 295 300
Ala Leu Ala Gln Tyr Gln Lys Asp Ala Pro Gly Lys Val Leu Gln Ala
305 310 315 320
Thr Val Val Ala Val Gly Ser Gly Ser Lys Gly Lys Gly Gly Glu Ile
325 330 335
Gln Pro Val Ser Val Lys Val Gly Asp Lys Val Leu Leu Pro Glu Tyr
340 345 350
Gly Gly Thr Lys Val Val Leu Asp Asp Lys Asp Tyr Phe Leu Phe Arg
355 360 365
Asp Gly Asp Ile Leu Gly Lys Tyr Val Asp Glu Gln Lys Leu Ile Ser
370 375 380
Glu Glu Asp Leu
385

<210> 20
<211> 383
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Fusion Protein

<400> 20
Met Lys Phe Leu Pro Leu Phe Asp Arg Val Leu Val Glu Arg Ser Ala
1 5 10 15

Gly Glu Thr Val Asp Ala Glu Arg Leu Lys His Leu Ile Val Thr Pro
20 25 30

Ser Gly Ser Gly Glu Gln Asn Met Ile Gly Met Thr Pro Thr Val Ile
35 40 45

Ala Val His Tyr Leu Asp Glu Thr Glu Gln Trp Glu Lys Phe Gly Leu
50 55 60

Glu Lys Arg Gln Gly Ala Leu Glu Leu Ile Lys Lys Gly Tyr Thr Gln
65 70 75 80

Gln Leu Ala Phe Arg Gln Pro Ser Ser Ala Phe Ala Ala Phe Val Lys
85 90 95

Arg Ala Pro Ser Thr Trp Leu Thr Ala Tyr Val Val Lys Val Phe Ser
100 105 110

Leu Ala Val Asn Leu Ile Ala Ile Asp Ser Gln Val Leu Cys Gly Ala
115 120 125

Val Lys Trp Leu Ile Leu Glu Lys Gln Lys Pro Asp Gly Val Phe Gln
130 135 140

Glu Asp Ala Pro Val Ile His Gln Glu Met Ile Gly Gly Leu Arg Asn
145 150 155 160

Asn Asn Glu Lys Asp Met Ala Leu Thr Ala Phe Val Leu Ile Ser Leu
165 170 175

Gln Glu Ala Lys Asp Ile Cys Glu Glu Gln Val Asn Ser Leu Pro Gly
180 185 190

Ser Ile Thr Lys Ala Gly Asp Phe Leu Glu Ala Asn Tyr Met Asn Leu
195 200 205

Gln Arg Ser Tyr Thr Val Ala Ile Ala Gly Tyr Ala Leu Ala Gln Met
210 215 220

Gly Arg Leu Lys Gly Pro Leu Leu Asn Lys Phe Leu Thr Thr Ala Lys
225 230 235 240

Asp Lys Asn Arg Trp Glu Asp Pro Gly Lys Gln Leu Tyr Asn Val Glu
245 250 255

Ala Thr Ser Tyr Ala Leu Leu Ala Leu Leu Gln Leu Lys Asp Phe Asp
260 265 270

Phe Val Pro Pro Val Val Arg Trp Leu Asn Glu Gln Arg Tyr Tyr Gly
275 280 285

Gly Gly Tyr Gly Ser Thr Gln Ala Thr Phe Met Val Phe Gln Ala Leu
290 295 300

Ala Gln Tyr Gln Lys Asp Ala Pro Leu Gln Ala Thr Val Val Ala Val
305 310 315 320

Gly Ser Gly Ser Lys Gly Lys Gly Gly Glu Ile Gln Pro Val Ser Val
325 330 335

Lys Val Gly Asp Lys Val Leu Leu Pro Glu Tyr Gly Thr Lys Val
340 345 350

Val Leu Asp Asp Lys Asp Tyr Phe Leu Phe Arg Asp Gly Asp Ile Leu
355 360 365

Gly Lys Tyr Val Asp Glu Gln Lys Leu Ile Ser Glu Glu Asp Leu
370 375 380

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